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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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September 11, 2002

Wendell Owen, Mine Manager
Co-Op Mining Company
P.O. Box 1245
Huntington, Utah 84528

Re: Conditional Approval of Tank Seam Amendment, Co-op Mining Company, Bear Canyon Mine, C015/025-AM02B-1, Outgoing File

Dear Mr. Owen:

The above-referenced amendment is conditionally approved upon receipt of seven clean copies prepared for incorporation. Please submit these copies by October 1, 2002. Once we receive these copies, final approval will be granted, at which time you may proceed with your plans.

A stamped incorporated copy of the approved plans will also be returned to you at that time, for insertion into your copy of the Mining and Reclamation Plan. A copy of our Technical Analysis is enclosed.

If you have any questions, please feel free to call me at (801) 538-5325.

Sincerely,

Daron R. Haddock

Daron R. Haddock
Permit Supervisor

an
Enclosure
cc: Price Field Office
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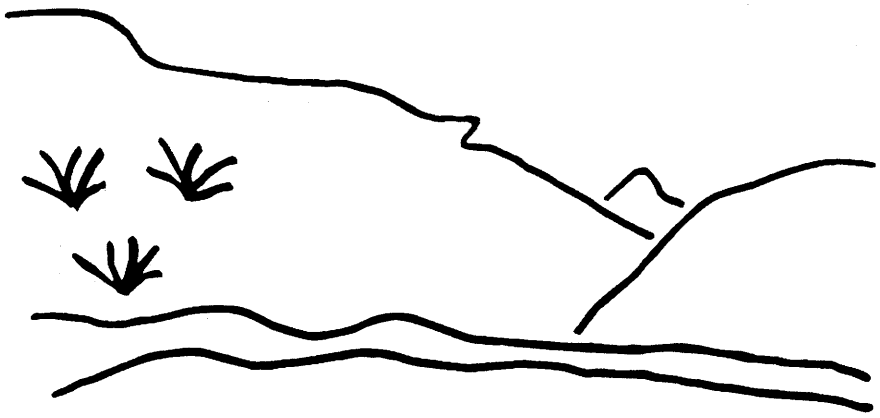
Utah!
Where ideas connect

State of Utah



Utah Oil Gas and Mining

Coal Regulatory Program

Bear Canyon
Tank Seam
C/015/025-AM02B
Technical Analysis
September 9, 2002

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TECHNICAL ANALYSIS

The Division regulates the Surface Mining Control and Reclamation Act of 1977(SMCRA). When mines submit a Permit Application Package or an amendment to their Mining and Reclamation Plan, the Division reviews the proposal for conformance to the R645-Coal Mining Rules. This Technical Analysis is such a review. Regardless of these analyses, the permittee must comply with the minimum regulatory requirements as established by SMCRA.

Readers of this document must be aware that the regulatory requirements are included by reference. A complete and current copy of these regulations and a copy of the Technical Analysis and Findings Review Guide can be found at http://ogm.utah.gov/coal

This Technical Analysis (TA) is written as part of the permit review process. It documents the Findings that the Division has made to date regarding the application for a permit and is the basis for permitting decisions with regard to the application. The TA is broken down into logical section headings which comprise the necessary components of an application. Each section is analyzed and specific findings are then provided which indicate whether or not the application is in compliance with the requirements.

Often the first technical review of an application finds that the application contains some deficiencies. The deficiencies are discussed in the body of the TA and are identified by a regulatory reference which describes the minimum requirements. In this Technical Analysis we have summarized the deficiencies at the beginning of the document to aid in responding to them. Once all of the deficiencies have been adequately addressed, the TA will be considered final for the permitting action.

It may be that not every topic or regulatory requirement is discussed in this version of the TA. Generally only those sections are analyzed that pertain to a particular permitting action. TA's may have been completed previously and the revised information has not altered the original findings. Those sections that are not discussed in this document are generally considered to be in compliance.

TECHNICAL ANALYSIS

INTRODUCTION

On February 19, 2002 the Division received an amendment to extend the existing road in the right canyon of Bear Canyon. This would extend the road about 2,000 feet in order to access the Tank Seam coal outcrop on Wild Horse Ridge (WHR) and conduct mining. There will be a pad at the top end of the road to accommodate mining activities. The existing road is within the disturbed area and the extension would be an addition to the disturbed area. The total increase in area is about 2.5 acres. Because many of the findings that apply to this amendment were made in the initial permitting of the WHR, those findings (refer to TA_SR98(1)-5b) are included by reference and repeated findings are not necessary.

On April 29, 2002 the Division sent a Technical Analysis enumerating several deficiencies with the first submittal. On June 18, 2002 the Division received a second submittal with corrections resulting from the TA. This document reviews that latest submittal. There are no deficiencies.

INTRODUCTION

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: 30 CFR 777.11; R645-301-120.

Analysis:

The information has been clearly and precisely presented in an electronic submittal with all previously noted errors corrected.

Findings:

The presentation of the information meets the requirements of the Regulations.

REPORTING OF TECHNICAL DATA

Regulatory Reference: 30 CFR 777.13; R645-301-130.

Analysis:

URS Corporation; 756 East Winchester Street, Suite 400, Salt Lake City, conducted the slope stability analyses for the Tank Seam expansion at Wild Horse Ridge (Attachment B of Appendix 3P).

Mr. Dan Larsen of EIS Environmental & Engineering Consulting, 31 North Main St., Helper Utah conducted the Wild Horse Ridge Tank Seam Soil Reserves Investigation and Assessment (Appendix 8-G).

Findings:

The information provided is adequate for reporting of Technical Data.

GENERAL CONTENTS

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

PERMIT AREA

Regulatory Requirements: 30 CFR 783.12; R645-301-521.

Analysis:

The Permittee stated on the C1 for that the permit area would increase by 2.25 acres. The new permit area is shown on several maps submitted in the PAP.

Findings:

The information provided in the proposed amendment is considered adequate to meet the requirements of the Permit Area section of the regulations.

HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.12; R645-301-411.

Analysis:

Sagebrush Consultants, L.L.C, conducted a cultural resource survey of the proposed portal and road area. The site survey was conducted in October 19, 2001 and the National Register of Historic Places was also consulted for listed or determined eligible properties. No cultural resource sites or isolates were identified during this inventory (Appendix 5-C).

Findings:

The information provided meets the minimum Historic and Archeological Resource Information section of the regulations.

VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

Analysis:

The addition of the Tank Seam WHR portals and road will increase the disturbed area by 2.5 acres. A mountain brush/conifer reference area was established to represent this disturbance for bond release standards. Prior to disturbance the WHR Tank Seam area had 62 percent total

vegetative cover comprised of 25 percent overstory and 37 percent understory cover. Dominant species were Douglas fir, white pine, pinyon pine, curl-leaf mountain mahogany, and Salina wildrye. Woody species density was 1,117 trees or shrubs per acre.

Findings:

The information provided meets the minimum Vegetation Resource Information Requirements of the regulations.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.21; R645-301-322.

Analysis:

No additional resource information was provided for this permit amendment. Information provided in the initial Wild Horse Ridge permitting is considered adequate, including threatened and endangered plant and animal information.

Findings:

The information provided meets the minimum Fish and Wildlife Resource Information section of the regulations.

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

Analysis:

A soil survey for the Tank Seam area expansion on Wild Horse Ridge was conducted in October 2001 (Appendix 8G). Soils of the portal were classified as loamy-skeletal, mixed, Typic Calciborolls (Guben) and loamy-skeletal, mixed Typic Haploborolls (Datino) on the basis of two pits TSP-1 and TSP-2. These classifications were supported by eleven hand dug holes (N11 – N21). Ten hand dug holes (N1 – N10) were used to verify the Guben Pathead soils and Doney-Cabba-Podo soils along the access road. Locations of the pits and shallow excavations are shown on the Soils Map that accompanies Appendix 8G.

Samples of the A and B horizons were collected and analyzed by Inter-Mountain Laboratory, Farmington, New Mexico. Pit TSP-2 is located in Datino soil adjacent to the road along the second hairpin turn above the Blind Canyon Seam portals. TSP-2 was sampled down to 20 inches (sample number P5).

Pit TSP-1 was located in Guben soil alongside the road just below the third hairpin turn above the Blind Canyon Seam portals. TSP-1 was sampled down to 40 inches (samples numbered P1 – 3). Calcic horizons weres identified in the field at 9 inches and 24 inches and verified by analysis.

A composite of soil from Notesite 21 at the pad area was combined with the surface soils from TSP-1 and labeled P4.

The nutrient status of the top eight inches of soil at TSP-1 with 5.0 mg/kg Nitrate-N, 3.0 mg/Kg Phosphorous, and 170 mg/Kg Potassium. The nutrient status of the top eight inches of soils at TSP-2 were not sampled separately, but were added to a composite of soils in the pad area (P4). The P4 sample was less fertile than the top eight inches of TSP-1 with 1.0 mg/kg Nitrate-N, 3.2 mg/Kg Phosphorous, and 310 mg/Kg Potassium in the upper seven inches. (This analytical result does not reflect the quality of the soil in TSP-2.) In both pits, SAR values were 0.2 or less and Electrical Conductivity was under 0.9 mmhos/cm.

The TSP-2 samples are noticeably lower in carbonates than those of TSP-1. Neutralization Potential of the calcic horizon in TSP-1 was over 300 t/kt compared with less than 10 t/kt at the 10 inch depth in TSP-2. (The calcic horizon was not indurated and did not restrict root growth.)

The field notes support the salvage of eight inches of topsoil (A horizon) along the road and at locations of pad development and switchback widening. Field notes and the NRCS soil description indicate that the A and B horizon for the Guben and Datino soils could be salvaged to a depth of sixteen inches.

Findings:

The information provided is adequate for the Soils Resource requirements of the Regulations.

GEOLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.22; R645-301-623, -301-724.

Analysis:

Section 3.5.8.1 of the MRP indicates that samples will be taken in new sections during future development where indicated on Plate 3-4. Samples will be analyzed according to Table 3K-1 and results will be included in Appendix 6-C.

Sampling locations RFM 1, 2 and 3 are in the #3 Blind Canyon seam U 024316 as indicated on Plate 3-4a.pdf. Samples RFM-1 was taken recently and will be added to Appendix 6C (personal communication with Mark Reynolds on September 5, 2002). Samples RFM 2 and 3 will be taken in 2016 and 2021, respectively.

A previous sample site in the Hiawatha Seam on Wild Horse Ridge (Plate 3-4B, 2001 Annual Report) was also designated RFM –3, but this site is in an area mined in 1994.

Sample site RFM-4 is in the Tank Seam in Mine #1 and was taken in 1995 (Email communication with Mark Reynolds on September 6, 2002). Information from this sample is found in Appendix 6C pages 23-25.

Sample sites RFM-5, 6, and 7 are in the Tank Seam, U-38727 lease area (Plate 3-4c.pdf). Sample RFM-5 is in the main entry and will be taken in 2003. Sample RFM-6 will be taken in 2008. Sample RFM-7 will be taken in 2020.

Data obtained from borehole analysis in 1982 of both the Tank Seam and the Blind Canyon Seam roof/floor and partings indicates that waste rock from the Blind Canyon Seam has little if any calcium carbonate content and will be acid-forming.

Section 6.5.4.1 (page 6-21) of the submittal indicates that since the 1982 borehole analysis did not include all the parameters of interest: pH, Electrical Conductivity, Sodium Adsorption Ratio, Acid/Base Accounting, Selenium, and Boron, the Permittee will analyze the #3 Blind Canyon Seam and the #4 Tank Seam for acid/toxic-forming potential as soon as the mine progresses to the sample points shown on Plates 3-4a &b. As mentioned previously, the #3 Blind Canyon Seam has recently been sampled at RFM-1.

Findings:

The information provided meets the requirements of the Regulations for geologic analysis. The Division will soon be in receipt of roof and floor and midseam analysis from the Blind Canyon Seam (RFM-1).

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Affected Area Boundary Maps

The Permittee does not propose any changes to the permit or affected area boundaries.

Existing Structures and Facilities Maps

The only existing structure in the proposed disturbed area boundary is the access road to the hunting cabin, which is shown on Plate 3-7G, Per-Mining Land Surface Configuration. The cross-section as indicated on Plate 3-7G are located in Appendix 3-P.

Existing Surface Configuration Maps

The existing surface configuration is shown on Plate 3-7G. The map has a scale of 1" = 50' and was certified by Charles Reynolds. The cross-sections are in Appendix 3-P; they show the pre/post mining and operation surface configuration.

Findings:

The information provided in the proposed amendment is considered adequate to meet the requirements of the Maps, Plans, and Cross-Sections of Resource Information section of the regulations.

OPERATION PLAN

MINING OPERATIONS AND FACILITIES

Regulatory Reference: 30 CFR 784.2, 784.11; R645-301-231, -301-526, -301-528.

Analysis:

General

The Permittee proposes the following changes to the MRP:

- To develop the No. 4 Mine access road
- To develop the Wild Horse Ridge Blind Canyon Seam pad
- Move the Tank Seam fan and water tank from the current location to the Wild Horse Ridge Blind Canyon Seam pad area.
- Move the proposed location of the water tank at the WHR Blind Canyon Seam pad.
- Remove the WHR Blind Canyon Seam shop from the MRP. The building was proposed but never constructed.

The Permittee has approval to mine the Blind Canyon Seam. The Permittee's future plans are to increase the permit area by including additional leases to the Blind Canyon Seam.

The purpose of this amendment is to get approval to construct the road and facilities needed to access the Blind Canyon Seam and to modify the surface facilities at the WHR Tank Seam Pad.

Findings:

The information provided in the proposed amendment is considered adequate to meet the requirements of this section of the regulations.

EXISTING STRUCTURES:

Regulatory Reference: 30 CFR 784.12; R645-301-526.

Analysis:

The only existing structure in the proposed disturbed area is a private road that is used to access a hunting cabin. The road will be upgrade to handle the additional traffic.

In addition, the Permittee plans to move the Tank Seam fan and water tank from the current location to the Wild Horse Ridge Blind Canyon Seam pad area and remove the WHR Blind Canyon Seam shop.

Findings:

The information provided in the proposed amendment is considered adequate to meet the requirements of this section of the regulations.

RELOCATION OR USE OF PUBLIC ROADS

Regulatory Reference: 30 CFR 784.18; R645-301-521, -301-526.

Analysis:

No public roads exist in the proposed disturbed area. However, a private road does exist which is used to access a hunting cabin. The Division has no regulations that deal specifically with private roads within the permit area that are used by Permittee or their employees. The Division encourages the Permittee to advise those using the road of the construction. Note: the Division did not require any special notification when the Permittee modified the lower part of the hunting cabin access road during the development of the WHR Tank Seam pad.

Findings:

The information provided in the proposed amendment is considered adequate to meet the requirements of this section of the regulations.

FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

Analysis:

Because the surface disturbance is in critical winter range, construction should not be started in the winter months from about November 1 until April 15.

Construction will be started outside the nesting season, February 1-August 15. The Permittee is working with DWR in funding a prey base study as mitigation for this and the WHR original disturbance (page 10-26) was permitted. The study will be completed by 2003.

Findings:

The information provided meets the minimum Fish and Wildlife Information requirements of the regulations.

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR 817.22; R645-301-230.

Analysis:

Removal and Storage

Table 3.3-1 Surface Disturbance Summary indicates that the No.4 Mine Access Road will be 2.74 acres (2000 feet long, page 3D-7A) and the Wild Horse Ridge Portal Pad area will be 0.55 acres. The pad will be supported by a retaining wall (page 3A-7). Roads will be made of subsoils and/or imported gravels. Road base analyses are presented in Appendix 8-E.

Development of the site will begin from the Blind Canyon seam. Topsoil will be removed from road and pad cuts as noted on page 8G-7 of App 8-G to a depth between 6 and 20 inches. Greater topsoil salvage depth is expected where pockets of a brown sandy loam BW horizon were noted along the northeast edge of the portal site.

Field notes and the NRCS soil description in Appendix 8G indicate that the A and B horizons for the Guben and Datino soils could be salvaged to a depth of sixteen inches. Since the mine is operating with a deficit of salvaged topsoil, expansion at Wild Horse Ridge presents an opportunity to salvage and store soils that could be utilized in reclamation of the Tipple yard.

Approximately 1,300 cu yds will be salvaged from reclamation area TS17 (page 8-35 and Table 3P-1 and Table 8.9-5 Summary Table). Topsoil will be stored in the Wild Horse Ridge Tank Seam Topsoil Stockpile as shown on Plate 2-4G and Plate 8-5G. Page 7K-11 indicates the 0.31 acre topsoil storage area will be protected from road drainage by a berm. Details of stockpile construction are shown in Appendix 3-P. The plan indicates that when the capacity of the topsoil stockpile is reached, excess topsoil will be hauled down to the Wild Horse Ridge topsoil stockpile and as a last resort, the potential additional topsoil storage site at Wild Horse Ridge will be utilized.

Table 8.3-2 Soil Unit Acreages Within the Disturbed Area indicates that approximately 3 acres of ground will have topsoil salvaged. Although page 8-43 states that there will be no construction or soil movement in the 0.76 acres of TS-16, this is contradicted by information in the cover letter attached to this submittal indicating that the road will be widened. Tables 8.3-2, 8.9-1 and 8.11-1 all include the additional acreage from TS 16.

Subsoils will be compacted on the outside of the two switchbacks shown on Plate 2-4G to allow the road to widen in these points.

Findings:

The information provided meets the requirements of the regulations for describing topsoil and subsoil handling operations.

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

Regulatory Reference: 30 CFR 784.24, 817.150, 817.151; R645-301-521, -301-527, -301-534, -301-732.

Analysis:

Road classification system

Because the No. 4 Mine access road will be used for coal haulage, the road must be classified as a primary road. The main difference between a primary and ancillary road is that a primary road design must be certified.

Plans and drawings

The design for the No. 4 Mine access road is in Appendix 3-P. The road is approximately 2,000 feet long, averaging 10% grade and not exceeding 14% grade. The section of the road that existed before mining and will remain in place meets the post-mining land use.

On page 8-43 of the amendment the Permittee states:

WHR Tank Seam Lower Portal Access Road: The area consists of an existing recreational road that was in place before mining and will be used post mining. There will be no construction or soil movement within this area so no topsoil will be removed. The soils in this area are described in Appendix 8-G.

Table 3P-1, Summary of Cut and Fill Volumes on page 3P-4 also shows that the entire earthwork will be done in and around the pad area.

In a conversation with the Division on March 15, 2002, the Permittee (Charles Reynolds) stated that part of the road would be upgraded to accommodate heavy truck traffic. The improvements include adding passing areas and widening turns.

The Permittee addresses the general road design requirements as follows:

- The pre-mining, operational and post-mining maps for the No. 4 Mine access road and the WHR Blind Canyon Seam pad area are as follows; Plate 3-7G, Plate 2-4G and Plate 3-2G respectively. The locations of the cross-sections are shown on each map. The cross-sections are in Appendix 3-P. On page 3-7 the Permittee states that the road surfacing material for the No. 4 Mine Portal Access Road will consist of in-place material and/or road base (gravel) material. A new culvert will be installed for the operational and post-mining periods. The designs of those culverts are included and reviewed in the hydrology section.

- The Permittee does not propose to locate the No.4 Mine Portal access road in the channel of an intermittent or perennial stream.

- The Permittee does not propose have the road ford and streams. Therefore, no designs for those structures are needed.

- The Permittee does not propose to alter or relocate an existing natural stream channel.

The Permittee addresses the specific primary road design requirements as follows:

- The Permittee had the designs for the No. 4 Mine Access road certified by Charles Reynolds who is a registered professional engineer.

- The Permittee had slope stability calculations done on each of the cross-sections. All of the slopes during the operational phase will have a static safety factor of 1.3 or greater. See the summary sheet in Appendix 3-P for details.

- The erosion control issues will be addressed in the hydrology section of the TA.

- The Permittee will use native material and road base (gravel) when needed for road base. The Division does not have specific standards for road surfacing. The road will be constructed and maintained like similar roads at the mine. Road surface materials have not been a problem at the mine. If a problem should occur then the Division will take action under road maintenance.

The cut and fill calculations are shown on Table 3P-1. The Permittee plans to cut 11,029 cubic yards of material of which 1,300 cubic yards are topsoil. The Permittee plans to use 11,089 cubic yards of material as fill. While the cut and fill calculations do not match, they are close enough (13%) for the Division to understand the construction plan.

Performance standards

The road will be subject to all performance standards.

Primary road certification

The No. 4 Mine Access road has been classified as a primary road. Charles Reynolds, who is a professional engineer, has certified the designs.

Other Transportation Facilities

No other surface transportation systems are associated with the WHR Tank seam pad or access road.

Findings:

The information provided in the proposed amendment is considered adequate to meet the requirements of the Road Systems and Other Transportation Facilities section of the regulations.

SPOIL AND WASTE MATERIALS

Regulatory Reference: 30 CFR 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

Analysis:

Coal Mine Waste

Section 3.5.8 of the MRP indicates that 150 cu yds of coal mine waste may be temporarily stored (15 days) on the main storage pad shown on Plate 2-4C. Drainage from this temporary location goes to Sediment Pond A.

Final storage of coal mine waste is permitted at the Hiawatha (C/007/011) in Slurry Pond 5A. Prior to shipping to Hiawatha, material will be tested for acid/toxic properties according to Table 3K-1.

Findings:

The information provided is adequate with regard to spoil and waste disposal requirements of the Regulations.

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

Discharges into an underground mine

There are no plans for discharges into an underground mine.

Gravity discharges

There are no plans for gravity discharges into an underground mine.

Sedimentation ponds.

No sediment ponds are associated with the construction of the WHR Tank Seam Pad area or the No. 4 Mine Access Road.

Impoundments

No impoundments are associated with the construction of the WHR Tank Seam Pad area or the No. 4 Mine Access Road.

Diversions

Ten new ditches and six new culverts are added to this expansion of the disturbed area. The total increase in area is about 2.6 acres. These ditches and culverts are along and under the 2,000-foot road which accesses the Tank Seam coal outcrop. Tables are used to summarize all calculations. Where possible flows are diverted away from the new disturbed area. Examples include ditches D-42U and D-43U. This is good design as well as a regulatory requirement.

The correct design storm, 10-year, 6-hour event, was used for all calculations. The runoff curve numbers were checked for all the drainages. Similarly the Manning n numbers and slopes were verified for the drainage ditches. These were all found to be appropriate. Several of the slopes were quite steep, for example D-42U average slope is 36% and maximum slope is 63%, but the flows are minimal. D-42U only flows 0.04cfs.

All the culvert calculations were similarly found to be adequate. Manning n numbers were verified and the H/D ratio is less than 1 for all culverts. However, culvert C-40U, at the

upper pad, causes the Division some concern with regard to future maintenance and possible future damage. The 12-inch diameter culvert is about 160 feet long and only slopes 0.001 (0.1%). Such a long culvert with such a low slope is very likely to plug with sediment and debris. The culvert does meet regulatory requirements as presently designed. Still, the Division would recommend the Operator employ methods to prevent plugging and to make cleanout easier. Some possibilities are: increase the slope, use a smooth pipe rather than corrugated, use a larger diameter pipe, and install a "Y" cleanout at the culvert midpoint. Certainly there should be sufficient earthen cover over the culvert to prevent crushing by heavy mining machinery. As required by regulations, a trashrack and debris basin are provided at the inlet to C-40U.

Stream Buffer Zones

Stream Buffer Zones do not apply to this amendment. All the Hydrologic drainages are on a mountain side-slope without well-defined drainages. There are shallow ephemeral drainages, however, they are located near the top of the drainage and only flow in direct response to rainfall on the immediate watershed. No stream Buffer Zones signs are needed.

Sediment Control Measures

Silt fences will be used below disturbed areas before construction begins. Erosion control mat and seeding will be employed on topsoil storage areas and excess fill storage areas.

The road construction sequence calls for first using a backhoe to create a berm on the downhill side of the road. This should prevent rock and dirt from leaving the disturbed area.

Siltation Structures

There are no sediment ponds in this amendment. There is a pad or working area at the very upper end of the road at the coal seam face-up. The only runoff for this area is the result of rain falling directly on the pad. This pad is 0.47 acre in size and runoff is contained in Catch Basin 3, which is a full-containment basin with capacity for 3-years worth of sediment. There is also a commitment to inspect and clean out the basin at least quarterly. This area is designated BTCA Area Z.

Exemptions for Siltation Structures

There are two new BTCA Area N designations. These are locations where excess fill from the road and pad construction is stored until reclamation. One area, 0.232 acre, is located below the second switchback on the access road while the other, 0.269 acre, is located just below the hunting cabin turnoff. Both areas will be protected from erosion and saturation by berms along the upper edges of the piles. In addition, the road will be sloped away from the piles. The piles themselves will have erosion control matting and will be seeded.

BTCA Area T is the topsoil storage area of about 0.31 acre located just below the first turn below the pad area. This pile will be totally contained by a berm and will be covered with erosion control matting and be seeded.

Findings:

This section of the application meets regulatory requirements.

SUPPORT FACILITIES AND UTILITY INSTALLATIONS

Regulatory Reference: 30 CFR 784.30, 817.180, 817.181; R645-301-526.

Analysis:

The water tank for the WHR Blind Canyon Seam mine will come from the old Tank Seam mine. The WHR Blind Canyon Seam Ventilation Fan will come from the old Tank Seam mine. The Division will allow the Permittee to relocate the water tank and ventilation fan.

The Permittee wants to withdraw constructing a shop building at the WHR Blind Canyon seam mine. Since the building was not constructed, the Division will allow the Permittee to withdraw the building.

Findings:

The Permittee has met the minimum requirements for this section of the regulations.

SIGNS AND MARKERS

Regulatory Reference: 30 CFR 817.11; R645-301-521.

Analysis:

The Permittee is responsible for placing all signs and marks as required by the regulations. The Division will inspect the site on a monthly basis. If signs or markers are inadequate then the Division will take action.

Findings:

The Permittee has met the minimum requirements of this section of the regulations.

USE OF EXPLOSIVES

Regulatory Reference: 30 CFR 817.61, 817.62, 817.64, 817.66, 817.67, 817.68; R645-301-524.

Analysis:

General

The Permittee has not submitted a specific blasting plan for the WHR Tank Seam portal pad area. If the Permittee finds that blasting is needed during construction then they can submit a blasting plan to the Division for review.

Findings:

The Permittee has met the minimum requirements of this section of the regulations.

MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

Regulatory Reference: 30 CFR 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

Analysis:

Affected Area Maps

Since no new areas will be permitted, the affected area current maps are adequate.

Mining Facilities Maps

Plate 2-4G shows the surface facilities for the WHR Blind Seam and Tank Seam portal areas. At the WHR Blind Seam area, the Permittee shows that the shop building will not be constructed and that the water tank has been moved near to the portals. At the WHR Tank Seam area the location of the portals, water tank and fan are shown along with the access road.

Plate 2-4E shows the reclaimed areas for the fan and water tank. Those areas will be reclaimed.

Mine Workings Maps

Plate 3-4C, Tank Seam, shows the location of the Tank Seam mine workings. The general mine plan has been approved by the Division.

Findings:

The Permittee has met the minimum requirements of this section of the regulations.

RECLAMATION PLAN

APPROXIMATE ORIGINAL CONTOUR RESTORATION

Regulatory Reference: 30 CFR 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-270, -301-271, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

Analysis:

The definitions of AOC are couched in terms of backfilling and grading in order to achieve certain results. The mining and reclamation plan must provide the basis for determining whether the proposed backfilling and grading plan will meet the following:

Final Surface Configuration

The final surface configuration should closely resemble the general surface configuration of the land before mining. Which means that the pre-mining and post-mining slopes should be similar and that the reclaimed site should blend into the surrounding area. Note: that the term AOC does necessarily mandate the attainment of original elevation

The cross-sections in Appendix 3P show that the Permittee plans to restore the site to the pre-mining topography. Since no materials will be moved off site or imported (except for possible road base) the Permittee will not have mass balance problems. The cross-sections show that the reclaimed site will blend into the surrounding area.

All Spoil Piles to be eliminated

No spoil piles will be created as part of the construction of the No. 4 Mine Access road or the WHR Tank Seam pad area.

All Highwalls to be eliminated.

The Permittee proposes to eliminate all highwalls.

Some cut slopes associated with the road will be left. The Division allows cut slopes to be left because they are either needed to support the post-mining land use or reclamation of the cut slopes cannot be done without violating a regulation such as slope stability.

Hydrology

The two main hydrology issues are restoration of the drainages and sediment control. No major drainages exist at the WHR Tank Seam pad area. The site will be restored to AOC

standards so that the drainage patterns should be restored to the pre-mining conditions. The sites area ASCAs therefore no sediment ponds will be constructed or used during operations or reclamation. Those issues are also addressed in the hydrology section of the TA.

Post-Mining Land Use

The pre-mining and post-mining land use for the Tank Seam pad area and the No. 4 Mine Access road should be the same. By restoring the site to the pre-mining condition, the land will be able to support the post-mining land use. Se the post-mining land use section of the TA for more details.

Findings:

The information provided in the proposed amendment is considered adequate to meet the requirements of the AOC section of the regulations.

BACKFILLING AND GRADING

Regulatory Reference: 30 CFR 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

Analysis:

General

The general backfilling and grading requirements are:

- Achieve the approximate original contour;
- Eliminate all highwalls, spoil piles, and depressions;
- Achieve a postmining slope that does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum long term static safety factor of 1.3 and to prevent slides;
- Minimize erosion and water pollution both on and off the site
- Support the approved postmining land use.

The AOC issues were addressed in that section of the TA. The general requirements for restoring the site to the pre-mining surface configuration have been met.

The highwall issues were addressed in the AOC section. The Permittee proposes to eliminate all highwalls at the WHR Tank Seam pad. No spoil piles or large depressions are associated with the WHR Tank Seam pad or No. 4 Mine Access Road.

The hydrology and post-mining land use requirement are discussed in other sections of the TA.

The backfilling and grading plan does not call for any cut-and-fill terraces to be left.

Previously Mined Areas

No previously mined areas are associated with the WHR Tank Seam pad area. Much of the No. 4 Mine Access road was disturbed before mining.

Findings:

The information provided in the proposed amendment is considered adequate to meet the requirements of the Backfilling and Grading section of the regulations.

MINE OPENINGS

Regulatory Reference: 30 CFR 817.13, 817.14, 817.15; R645-301-513, -301-529, -301-551, -301-631, -301-748, -301-765, -301-748.

Analysis:

The approved MRP has a mine openings sealing plan. The plan deals with sealing portals and is adequate for the WHR Tank Seam pad area.

Findings:

The Permittee has met the minimum requirements of this section of the regulations.

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR 817.22; R645-301-240.

Analysis:

Redistribution

Cut and Fill calculations are shown in Table 3P-1 on page 3P-4. Calculations were developed from Plates 2-4G, Plate 3-2G and 3-7G using AutoCad Quicksurf 3-D modeling software. Resulting cross-sections are found in Attachment A (Note: the scale changes with each cross-section). Plate 3-7G shows the locations of the cross-sections.

Table 8.9-1 Reclamation Area Summary and Table 8.3-2 Soil Unit Acreages Within the Disturbed Area includes areas TS-16 (0.89 acres) and TS-17 (2.22 acres) for the Wild Horse Ridge Tank Seam, for a total of 3.11 additional acres. Of these acres, 2.74 will have topsoil removed (Table 8.3-2) and 1.74 will be recontoured (Table 8.9-1). The difference is accounted for by the existing access road which will remain after reclamation.

Eight inches of topsoil will be replaced over the regraded area (page 3P-6).

Two samples will be drawn from the re-graded subsoils of the WHR Tank Seam Upper Pad to be tested for suitability.

Findings:

The information provided meets the requirements of the Regulations for reclamation topsoil and subsoil.

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

Regulatory Reference: 30 CFR 701.5, 784.24, 817.150, 817.151; R645-100-200, -301-513, -301-521, -301-527, -301-534, -301-537, -301-732.

Analysis:

Reclamation

The Permittee will to reclaim the portal pad area and the turn off road from the hunting cabin access road. The general reclamation plan is shown on Plate 3-2G, see Plate 2-4G for operational status. The cross-sections for the pre-mining, operational and post-mining for the No. 4 Mine Access road and WHR Tank Seam portal pad area are in Attachment A of Appendix *3P*.

Findings:

The information provided in the proposed amendment is considered adequate to meet the requirements of the Road is section of the regulations.

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

Analysis:

Discharges into an underground mine

There will be no discharges into underground mines after reclamation.

Gravity discharges

There will be no discharge into underground mines after reclamation.

Sedimentation ponds

No sediment ponds are in the WHR Tank Seam pad area.

Impoundments

No impoundments are located in the WHR Tank Seam pad area.

Acid and toxic-forming materials

During final reclamation, subsoils will be tested with the frequency outlined in Table 8.11-1 for acid/toxic parameters. The MRP describes final placement of coal mine waste in Section 3.5.8.

Diversions

The road to the pad area is mostly an existing road to a hunting cabin. Only the last 200 feet and the face-up pad (0.47 acre) comprise additional road building. As part of the post-mining land use, the road will remain, except for that last 200 feet and the pad. These areas will be backfilled and restored to their natural slope during reclamation. The remainder of the road all the way down to Bear Creek will remain in place after reclamation.

Appendix 7-H, Reclamation Channel Sizing contains calculations for the reclamation ditches and culverts. The appropriate design event, a 100-year, 6-hour storm, was used for the calculations. The runoff curve numbers were checked for all the drainages. Similarly the Manning n numbers and slopes were verified for the drainage ditches. These were all found to be appropriate. The culverts installed in the Operational Phase of mining are the same ones to be left in place after reclamation and the diameters were checked to be sure they are the same.

Stream Buffer Zones

Stream Buffer Zones do not apply to this amendment. All the Hydrologic drainages are on a mountain side-slope without well-defined drainages. There are shallow ephemeral drainages, however, they are located near the top of the drainage and only flow in direct response

to rainfall on the immediate watershed. No stream Buffer Zones signs are needed.

Sediment Control Measures

Silt fences will be used below disturbed areas before construction begins. Erosion control mat and seeding will be employed on reclaimed areas.

Siltation Structures

Silt fences are to be installed below the disturbed area before construction is begun. The silt fence installation will be according to a diagram in the original MRP, which has already been approved.

Acid and Toxic-Forming Materials

During final reclamation, subsoils will be tested with the frequency outlined in Table 8.11-1 for acid/toxic parameters. The MRP describes final placement of coal mine waste in Section 3.5.8.

Findings:

The information provided in the proposed amendment is considered adequate to meet the requirements of this section of the regulations.

REVEGETATION

Regulatory Reference: 30 CFR 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

General requirements

A seed mixture for the Mountain Brush/Conifer vegetation type is provided in Table 9.5-3. A diverse native seed mixture is provided that should allow the postmining land use of to be achieved. No other changes in the reclamation plan are required and findings are the same as those detailed in the initial WHR permitting.

Standards for success

A new Mountain Brush/Conifer Reference Area was established for the Tank Seam pad and road in the WHR area (Appendix 9-H and Plate 9-1). There are some differences in species

composition between the reference area and proposed disturbed area; the reference area is similar enough that it is considered an acceptable standard.

The reference area had 1261 woody plants per acre, and the proposed disturbed area had 1117. Considering the plant communities and the topography, 1000 plants per acre is considered an attainable and acceptable standard for success for woody plant density. In addition to this number standard and in consideration of the value of this area for wildlife the Permittee has committed to the woody plant density and an additional diversity standard that at least half of the woody plants (by number) will be comprised of mountain mahogany, skunkbush, and vasey big sagebrush (Section 9.3.6). The standard was established in consultation with the Division of Wildlife Resources.

Findings:

The information provided meet the minimum Revegetation requirement of the regulations

STABILIZATION OF SURFACE AREAS

Regulatory Reference: 30 CFR 817.95; R645-301-244.

Analysis:

A slope stability analysis conducted by URS Corporation, Salt Lake City, Utah, is provided in Attachment B. Subsoil will be compacted in 12 inch lifts. During operations, exposed slopes will be covered with erosion control matting as described in Appendix 7-K (page 3P-5). During reclamation, slopes will be roughened with pocking and erosion control matting will be used as described in Section 3.6.11 (page 7K-23).

Findings:

The information provided is adequate for the stabilization requirements of the Regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

Regulatory Reference: 30 CFR 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

Analysis:

Affected area boundary maps

Because there are no changes to the permit area, the existing permit boundary maps are adequate.

Bonded area map

The bonded area map is the same as the disturbed area map. Plate 3-2G shows the disturbed area boundaries that will exist during reclamation.

Reclamation backfilling and grading maps

The backfilling and grading maps for final reclamation are Plate 3-2G and the cross-sections in Appendix 3P. The maps and cross-sections show the pre-mining, operational and post-mining contours and slopes.

Reclamation facilities maps

Plate 3-2G shows the facilities that will be left after reclamation of the WHR Tank Seam pad area and access road. The main access road to the hunting cabin will be left, along with some culverts.

Final surface configuration maps

Plate 3-2G and the cross sections in Appendix 3p show the final surface configuration for the WHR Tank Seam pad area.

Reclamation surface and subsurface manmade features maps

Plate 3-2G shows the facilities that will be left after reclamation of the WHR Tank Seam pad area and access road. The main access road to the hunting cabin will be left, along with some culverts.

Findings:

The Permittee has met the minimum requirements of this section.

BONDING AND INSURANCE REQUIREMENTS

Regulatory Reference: 30 CFR 800; R645-301-800, et seq.

Analysis:

Determination of Bond Amount

The bond calculations appear to be adequate. The current bond amount is for $1,825,000 and the reclamation estimate is for $1,825,000.

Findings:

The information provided in the proposed amendment is considered adequate to meet the requirements of the bonding section of the regulations.

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